

May 31, 2011

**VIA ELECTRONIC FILING**

Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 12th Street, SW  
Washington, DC 20554

Re: *Applications of AT&T Inc. and Deutsche Telecom AG for Consent to Assign or Transfer Control of Licenses and Authorizations, WT Docket No. 11-65*

Dear Ms. Dortch:

I am writing to explain how the proposed merger between AT&T and T-Mobile USA could affect Corning Incorporated, the inventor of the first low-loss optical fiber for telecommunications, and America's telecommunications stature.

Corning is the global leader in specialty glass and ceramics. Drawing on more than 160 years of materials science and processing engineering knowledge, Corning is able to create and manufacture keystone components that enable high technology systems for telecommunications, consumer electronics, mobile source emissions control, and life sciences.

The key to Corning's longevity has been its long-term commitment to innovation. We consistently invest 10 percent of our revenue in research, development, and engineering. Because of this commitment, we have invented numerous products and processes over our history that have had a profound effect on our Nation's economy. The invention of optical fiber and the manufacturing process for making it represents one of Corning's many breakthrough inventions.

It is certainly not obvious why the world's largest manufacturer of optical fiber and cable would take a keen interest in the FCC's consideration of the proposed merger. But, the fact is, wireless and optical fiber technology are complementary. Wireless demand drives fiber demand.

Wireless demand is growing at a phenomenal rate. Mobile broadband data traffic is growing at a 92 percent compound annual growth rate<sup>1</sup> as consumers have flocked to smartphones and tablet computers to reap the many benefits of such devices. Smartphone devices alone generate 24 times the mobile data traffic as conventional wireless phones. And, as AT&T notes, its own mobile data volumes have surged by 8,000% between 2007 and 2010.<sup>2</sup>

The growth rate in wireless demand will likely accelerate as 4G wireless networks are fully deployed. 4G technology, like Long Term Evolution (LTE), enable broadband connections at

---

<sup>1</sup> CISCO Visual Networking Index Report, Global Mobile Data Traffic Forecast Update, 2010-2015, Figure 1 (Feb. 1, 2011).

<sup>2</sup> Acquisition of T-Mobile USA, Inc. by AT&T Inc., Description of Transaction, Public Interest Showing and Related Demonstrations, at 22, ULS File No. 0004669383 (filed Apr. 21, 2011).

speeds of 10Mbps per user or more within a cell site<sup>3</sup>, a transmission rate that exceeds the average broadband speeds used by residential subscribers today.

The growth in wireless demand drives the demand for optical fiber in two notable ways. *First*, to accommodate the growth, wireless carriers shift traffic to their fixed wireline network as quickly as possible. *Second*, wireless carriers need to upgrade their backhaul network to fiber optic transmission as the capability of copper transmission, typically in the form of one or more T-1 lines, is not sufficient to manage the backhaul traffic.

Fiber optic cable is also being deployed at the cell sites all the way to the remote radio head at the top of cell towers, a technology referred to as Fiber-to-the-Antenna (FTTA). The large coaxial cables currently installed on cell towers have inherent bandwidth limitations. They are also inefficient in power usage and create wind and weight loads on towers that are becoming a concern as more antennas are installed to meet the growing mobile bandwidth demand. Fiber optic cable is also increasingly being used for Indoor Distributed Antenna Systems (IDAS) to expand wireless coverage and improve reliability inside buildings. Corning has unique technology solutions for both FTTA and IDAS.

In light of the connection between the demand for wireless and the demand for fiber, Corning supports public and private initiatives that accommodate spectrum efficiency, increase spectrum availability, increase infrastructure investment, and expand broadband access to more Americans. The proposed merger will achieve three of these goals.

*First*, the merger would, in the short term, relieve the current mobile broadband spectrum shortage. As Chairman Genachowski recognized, “[the] explosion in demand for spectrum is putting strain on the limited supply available for mobile broadband, leading to a spectrum crunch .... If we do nothing in the face of the looming spectrum crunch, many consumers will face higher prices ... and frustrating service.”<sup>4</sup>

Although the merger would not literally increase spectrum supply, it would increase spectrum efficiency to a point that would provide a short term solution to the capacity constraints of both AT&T and T-Mobile. Because both companies share common technologies, integration of their networks will create additional capacity that will allow the combined company to improve service quality and free up spectrum for more spectrally efficient LTE technology.

*Second*, the merger would result in a significant increase in infrastructure investment that would not otherwise be made. AT&T’s current spectrum holdings and T-Mobile’s capital constraints would not allow either company, acting alone, to deploy a nationwide LTE network.

---

<sup>3</sup> IDATE Consulting and Research ([www.idate-research.com](http://www.idate-research.com)) reported in their “2011 LTE Facts & Figures, Markets & Trends,” LTE Watch Service, that Verizon Wireless’ LTE launch in December 2010 provides an average speed of 5-12 Mb/s downlink and 2-5 Mb/s uplink in the 700 MHz range (2x10 MHz) with peak download rates of 40-50 Mb/s demonstrated. And Japan’s NTT provides a maximum speed of 37.5 Mb/s downlink and 12.5 Mb/s uplink in the 2.1 GHz range (with some building capacity of 70 Mb/s downlink and 37.5 Mb/s uplink).

<sup>4</sup> *Prepared Remarks of FCC Chairman Julius Genachowski*, CTIA Wireless 2011 (Mar. 22, 2011), available at [http://www.fcc.gov/Daily\\_Releases/Daily\\_Business/2011/db0322/DOC-305309A1.pdf](http://www.fcc.gov/Daily_Releases/Daily_Business/2011/db0322/DOC-305309A1.pdf).

AT&T has stated publicly that it would invest \$8 billion beyond its current investment plan to upgrade the combined network to LTE if the merger is approved.<sup>5</sup>

*And Third*, the merger would help to achieve the President's goal of "connecting every part of America to the digital age."<sup>6</sup> The merger would give the combined company the scale, resources, and spectrum needed to deploy LTE to more than 97 percent of Americans, rather than 80 percent under AT&T's current plans. Nationwide LTE deployment would bring significant benefits to residents of rural areas and smaller communities in which mobile broadband could bring educational, healthcare and other benefits. For instance, LTE's low latency rate provides support for delay-sensitive online applications like long distance learning or remote patient examinations by doctors in other locations.

We realize that the Commission must do a rigorous analysis of the impact of the proposed merger on a number of factors beyond those cited in this letter. But, we urge the Commission to give great weight to the public benefits cited herein: improved spectrum use and efficiency, increased infrastructure investment, and expanded broadband access to areas that would not otherwise be served. These benefits give the FCC reason to look favorably on the merger.

Respectfully submitted,

A handwritten signature in black ink that reads "Timothy J Regan". The signature is written in a cursive, slightly slanted style with a horizontal line at the end.

---

<sup>5</sup> See AT&T to Acquire T-Mobile USA from Deutsche Telekom, AT&T News Release at 3 (Mar. 20, 2011) (stating that AT&T will invest \$8 billion over seven years), available at <http://www.att.com/gen/press-room?pid=19358&cdvn=news&newsarticleid=31703&mapcode=corporate|financial>.

<sup>6</sup> President Barack Obama, State of the Union Address, (Jan. 25, 2011), *available at* <http://www.whitehouse.gov/the-press-office/2011/01/25/remarks-president-state-union-address>.